IN THE CLAIMS:

1. (Amended) A method of processing an auscultation signal, said auscultation signal being divided into a plurality of signal segments each having an individual duration of time, said signal segments being processed into an output signal of successive signal segments, said signal segments being processed such that at least one[, preferably all] of the signal segments [are] is repeated at least once in said output signal, [characterized in that] the method comprising:

establishing each signal segment [is established] such that the duration of time of substantially all of the signal segments is less than a limit of 50 ms.

2. (Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] further comprising:

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iteratively filtering the auscultation signal [is filtered iteratively by means of an iterative filtering process] until the duration of time of substantially all of the signal segments is less than the limit.

3. (Amended) [A] The method of processing an auscultation signal according to claim 2, [characterized in that] further comprising:

terminating the iterative filtering [process is terminated] when the filtered signal does not comprise signal segments having a duration of time which is longer than the limit.

4. (Twice Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] the limit [is] being less than 40 ms[, preferably 30 ms].

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5. (Twice Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] further comprising:

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iteratively pre-filtering the auscultation signal [is pre-filtered iteratively by means of] with a high-pass filter until the duration of time of signal segments is less than the limit.

6. (Amended) [A] The method of processing an auscultation signal according to claim 5, [characterized in that] further comprising:

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iteratively post-filtering the output signal [is post-filtered iteratively] with a filter having [an] a transfer function corresponding to [the] an inverse amplitude transfer function of the high-pass filter.

7. (Twice Amended) [A] The method of processing an auscultation signal according to claim 3, [characterized in that] further comprising:

terminating the iterative filtering [process is terminated] when the auscultation signal has been filtered a specified number of times and that an indicator signal indicating termination of the filtering process is provided.

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8. (Twice Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] further comprising:

patching signal segments having a relatively short duration of time [are patched] together to form a coherent segment comprising at least three zero-crossings, [which] the coherent segment [is] being repeated at least once.

9. (Twice Amended) [A] The method of processing an auscultation signal, according to claim 1, [characterized in that] further comprising:

dividing the auscultation signal [is divided] into signal segments in zero crossings.

10. (Twice Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] further comprising:

dividing the auscultation signal [is divided] into signal segments such that [the] gradients of neighboring signal segments of the output signal are substantially equal, [and wherein] the neighboring signal segments [are] being level-compensated.

11. (Twice Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] further comprising:

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one of multiplying the signal divided segments and filtering the signal divided segments [are multiplied or filtered by means of] using a window function [such that the] to level transitions between neighboring signal segments [are smoothed] .

12. (Twice Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] further comprising:

reversing signal segments in the output signal [are reversed] in time.

13. (Twice Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] further comprising:

mirroring signal segments in the output signal [are mirrored] about a time axis.

14. (Twice Amended) [A] The method of processing an auscultation signal according to claim 1, [characterized in that] further comprising:

pre-filtering the auscultation signal [is pre-filtered by] using a high-pass filter [such that] to obtain further zero crossings [may be obtained] .

15. (Amended) An a apparatus for processing an auscultation signal, the apparatus comprising:

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a signal processing [means for dividing] unit that divides the auscultation signal into a plurality of signal segments, each segment having an individual duration of time, said signal segments being processed into an output signal of successive signal segments[,

said signal segments being processed] such that at least one[, preferably all signal segments are] signal segment is repeated at least once in said output signal, [characterized in that]

[said apparatus further comprises means for] the signal processing unit establishing each signal segment such that the duration of time of substantially all of the signal segments is less than a limit of 50 ms.

16. (Amended) [An] The apparatus according to claim 15, [characterized in that the apparatus comprises means for filtering] further comprising:

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an iterative filter that iteratively filters the auscultation signal [iteratively by means of an iterative filtering means] until the duration of time of substantially all of the signal segments is less than the limit.

17. (Amended) [An] The apparatus according to claim 16, [characterized in that] the iterative [filtering means is] filter being interrupted when the filtered signal does not comprise signal segments having a duration of time which is longer than the limit.

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18. (Twice Amended) [An] The apparatus according to claim 15, [characterized in that] the limit [is] being less than 40 ms, [preferably 30 ms] .

19. (Twice Amended) [An] The apparatus according to claim 15, [characterized in that the apparatus comprises] further comprising:

a high-pass filter [for pre-filtering] that iteratively pre-filters the auscultation signal [iteratively] until the duration of time of signal segments is less than the limit.

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20. (Amended) [An] The apparatus according to claim 19, [characterized in that apparatus comprises] further comprising:

a [filter] post-filter having an amplitude transfer function corresponding to [the] an inverse amplitude transfer function of the high-pass filter[, for post filtering] that post-filters the auscultation signal.

21. (Twice Amended) [An] The apparatus according to claim 17, [characterized in that] the iterative [filtering means is] filter being interrupted when the auscultation signal has been filtered a specified number of times and that an indicator signal indicating termination of the filtering process is provided.

22. (Twice Amended) [A method of processing an auscultation signal] The apparatus according to claim 15, [characterized in that] signal segments having a relatively short duration of time [are] being patched together to form a coherent segment comprising at least three zero-crossings, [which] the coherent segment [is] being repeated at least once.

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23. (Twice Amended) [An] The apparatus according to claim 15, [characterized in that the apparatus comprises means for] the signal processing unit dividing the auscultation signal into signal segments in zero crossings.

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24. (Twice Amended) [An] The apparatus according to claim 15, [characterized in that the apparatus comprises means for] the signal processing unit dividing the auscultation signal into signal segments such that [the] gradients of neighboring signal segments of the output signal are substantially equal, and [wherein] such that the neighboring signal segments are level-compensated.

25. (Twice Amended) An apparatus according to claim 15, [characterized in that the apparatus comprises means for] the signal processing unit performs one of multiplying [or] the signal divided segments and filtering the signal divided segments [by] using a window function [such that the] to level transitions between neighbouring signal segments [are smoothed] .

26. (Twice Amended) [An] The apparatus according to claim 15, [characterized in that the apparatus comprises means for] the signal processing unit reversing the signal segments in the output signal in time.